



NEWS FROM THE SCIENTIFIC DIRECTOR, NIEHS

February, 1999

Contents of this Issue

- 1. DIR Retreat Summary
- 2. New Faculties – Environmental Genomics; Breast and Prostate
- 3. Environmental Genome Project Update
- 4. Summer Program Deadlines
- 5. New BSC Board Members
- 6. FY 2000 IRA Proposal Requests and Deadlines
- 7. Vacancies/Recruits
- 8. 1999 Summer Employment Program
- 9. Deadline Date for Submission of 1998 Individual Performance Plans

DIR RETREAT SUMMARY

The DIR held a retreat of all Group and Section Leaders in Pinehurst on January 4-6. This served as a forum for discussions of the current DIR and future plans. One of the key requests from the Group/Section Leaders was for better communication, which led to the suggestion to have a Newsletter from the Scientific Director on a regular basis -- here is the first edition. Future editions will discuss other issues and actions from the retreat.

NEW FACULTIES

Environmental Genomics Faculty -- The organizational meeting of the Environmental Genomics Faculty chaired by Dr. Jack Taylor was held recently. This faculty is concerned with the Environmental Genome Project and the wider issues of environmental genomics.

On February 19 at 1:00 pm in Conference Room 101B there will be a presentation by Oak Ridge National Laboratory representatives on the results of database searches for environmentally responsive genes as candidates for resequencing.

The Environmental Genomics Faculty is open to anyone at NIEHS. If you are interested in joining this faculty, please contact Jack Taylor to be added to the mailing list for future meetings.

Breast and Prostate Faculty -- The newly established Breast and Prostate Faculty has met recently to discuss on-going research activities at NIEHS as well as to plan the Morrow Thompson Memorial Symposium on Prostate Cancer. This group anticipates having monthly meetings with presentations by individual scientists at NIEHS, surrounding organizations, and other outside speakers recommended by the faculty. If you are interested in being a part of this faculty and included in future mailings and activities, please notify Linda Smith (if you have not already done so) to add your name to the faculty listing.

ENVIRONMENTAL GENOME PROJECT UPDATE - J. K. Selkirk, Ph.D.

Intramural Activities

We are currently working with two Interagency Agreements in the Intramural Program, a resequencing effort for discovering common polymorphisms at Lawrence Livermore Laboratory under the direction of Dr. Harvey Mohrenweiser, and a broad literature search effort for known environmentally related genes by the Human Genome Information Management Section at Oak Ridge National Laboratory.

A. Resequencing of Environmentally Sensitive Genes:

Seventy-two normal human cell lines were obtained from the Coriell Institute. DNA was prepared in the laboratory of Dr. Doug Bell. and sent to Dr. Mohrenwieser. Candidate genes were solicited from DIR researchers and those genes with complete genomic sequence given priority.

The following genes have PCR products and are actively being sequenced at LLNL.

1. COX2.
2. CYP2J2,
3. PCNA,
4. FEN-1
5. Gos25 - Currently testing primers
6. 15 Lipxygenase - Primers ordered
7. Leucotriene C4 Synthetase - Primers ordered
8. Prostocyclin Syntathase – Primers designed

In addition, ERF-1, ERF-2, MACS, IGF-I, IGFBP, and GH are in the queue.

Please submit the accession number of candidate genes of known genomic sequence, either by email or phone to Dr. James K. Selkirk, Ext. 1-2548.

B. Literature Search for Environmentally Responsive Genes

ORNL is searching the many information resources available for genes with environmental tags using both a shotgun approach and one more narrowly focused. For the first pass, efforts concentrated upon the genes on the EGP list. They are using broadly structured searches to pick-up any gene that has environmental indexing tags associated with it. These searches with no specific gene designate have to be done with very broad search terms and therefore often retrieve a lot of unusable information, and require careful checking through printouts.

1. Searches have been made of the primary literature for 65 of the original EGP genes. Search results have been captured electronically and classified. The information obtained is being reviewed for content and records selected will be placed in a file for obtaining background information on each gene.

2. A subset of 1,342 genes associated with human disease has been assembled and is being reviewed for selection of genes to be recommended to the EGP as candidates for resequencing. These genes are being reviewed for environmental relevance.
3. In addition to database searching, suggestions for candidate genes from experts located throughout the world have been solicited. To date, 57 gene recommendations have been received. These genes are being screened and dossiers on those surviving initial screening are being prepared.

Extramural Activities

The extramural program has awarded five R01 grants in diverse areas of genomic research which will have direct impact upon the Environmental Genome Project. Complete summaries of these grants are available for Dr. Jose Velazquez.

1. Amos, Christopher,-- M.D. Anderson, Texas -- 1R01ES 09912-01 -- Linkage and Linkage Disequilibrium Traits. This work is designed to develop and implement new methods for detecting genetic factors that influence disease expression.
2. Hogan, Michael,-- Genometrix, Texas --1R01ES09910-01 -- Risk/Tox Chip Program. The goal of this research program is to develop instrumentation, the techniques and the DNA microarray technology to perform large-scale and low cost analysis of inherited genetic variation on as many as 50 genes at a time.
3. Li, Hongzhe -- Univ.CA., Davis -- R01ES09900-01 -- Survival Models for Mapping Genes for Complex Diseases. This project will develop powerful and computational efficient statistical methods for identifying genes underlying complex human diseases
4. Olson, Maynard, -- Univ. Wash. -- R01ES09909-01 -- Methods for Single Nucleotide Polymorphisms. This is a pilot project for Single Nucleotide Polymorphism Discovery. EST databases will be searched for clusters from multiple Individuals to identify SNP's that are in transcribed regions of the genome
5. Weiss, Robert -- Univ. Utah,-- R01ES10058-01 -- Full -Length Sequencing of Cancer cDNAs. The goal of this research is to identify cancer related genes and to determine their full-length coding region. A DNA array containing 40,000 clones from the Unigene collection will be used.

SUMMER PROGRAM DEADLINES

Deadlines for the Summers of Discovery Program are as follows:

Requests from Labs/Branches to be returned to Mike Hogan or Linda Smith no later than January 29.

Deadline for receipt of student application materials is February 15, 1999.

NEW DIR BOARD OF SCIENTIFIC COUNSELORS MEMBERS

We are honored to have the following scientists join the DIR Board of Scientific Counselors. They are: Carol W. Greider, Ph.D., Associate Professor, Department of Molecular Biology and Genetics, Johns Hopkins University School of Medicine; Michelle Williams, Sc.D, Associate Professor, Department of Epidemiology, University of Washington, School of Public Health and Community Medicine; Leona D. Samson, Ph.D., Professor of Toxicology, Department of Cancer Cell Biology, Division of Toxicology, Harvard School of Public Health; and Lawrence J. Marnett, Ph.D., Professor, Department of Biochemistry, Vanderbilt University School of Medicine.

FY2000 IRA PROPOSAL REQUESTS AND DEADLINES

On November 30, 1998 a memo was sent out to notify all Principal Investigators and Principle Staff Scientists of the IRA FY2000 Proposal Request and Deadlines. The time-frames for the IRA review and award process are as follows: Receipt of Proposal – March 1, 1999; Notification of Award – July 1, 1999; Start Date of Award – October 1, 1999. As a reminder please submit 15 copies of your proposals to Ms. McKinney by March 1, 1999.

VACANCIES/RECRUITS

The Division of Intramural Research, NIEHS, is currently recruiting for the following positions:

- 1) Staff Scientist Position as Head, Veterinary Medicine Section, Comparative Medicine Branch
- 2) Staff Scientist Position in Veterinary Pathology, Laboratory of Experimental Pathology, Environmental Toxicology Program.
- 3) GS-13 Biologist Position (to replace Larry Hart in the Office of the Program Director, Environmental Toxicology Program.

Contact Janis Mullaney for further details

1999 Summer Employment Program

Applications are currently being accepted in the Human Resources Management Branch for summer employment at NIEHS. For additional information, click on website <http://www.niehs.nih.gov/omhrmb/vacancy/sep.htm>.

1998 PERFORMANCE PLAN DEADLINE

The deadline to submit the individual 1998 Performance Plans to Human Resources Management Branch (Janice Strother) is February 19, 1999.